GROUNDWATER TECHNOLOGY, INC.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700
FAX (916) 372-8781

TO: Mr. Don Ringsby
Ringsby Terminals, Inc.
P.O. Box 7240
Denver, CO. 80207
(303) 320-3960 FAX (303) 355-2451

DATE: 04/11/95 JOB NO. 02070-0061
FROM: Jaff Auchterlonie
RE: Ringsby Terminal - Port of Oakland
2225 7th Street
Oakland, CA. 94607

We are sending via: [ ] AIRBORNE [x] MAIL [ ] FAX

ORIGINALS	COPIES	DATE	DESCRIPTION
1	0	04/07/95	AMMENDED WORK PLAN FOR SOIL AND GROUNDWATER ASSESSMENT

Transmitted as checked:

[ ] For Approval [ ] For Your Use [X] As You Requested
[ ] For Comment [ ] For Resubmittal [X] For Your Records

Remarks: With the approval of the report that you gave today over the phone, copies of the report will be sent via overnight Airborne to Jennifer Eberle of the ACDEH and mailed to Mr. Dan Schoenhlz of the Port of Oakland. I have also included the orginal utility map that you mailed to our office in March. If you have any comments or questions concerning the work plan, please feel free to give me a call. I will keep you updated as work on the project is completed.

Don Ringsby

Copies to:

Ms. Jennifer Eberle, Hazardous Materials Specialist (510) 567-6761
Alameda County Department of Environmental Health FAX (510) 337-9335
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

Mr. Dan Schoenholz (510) 272-1220
Environmental Scientist FAX (510) 465-3755
Port of Oakland
530 Water Street
Oakland, California 94607

Trns2.WK3

GROUNDWATER TECHNOLOGY, INC.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700

FAX (916) 372-8781

April 7, 1995

Mr. Don Ringsby
Ringsby Terminals, Inc.
3980 Quebec Street, Suite 214
Denver, Colorado 80207

Subject: Amended Work Plan for Soil and Groundwater Assessment
Ringsby Terminals, Port of Oakland Lease
2225 7th Street
Oakland, California
GTI Project 02070 0061

Dear Mr. Ringsby,

Groundwater Technology, Inc. submits this letter as an addendum to the original work plan for additional soil and groundwater assessment at the Ringsby Terminal, Port of Oakland lease located at 2225 7th Street, in Oakland, California (Attachment 1, Figures 1 and 2). The original work plan, dated February 24, 1995, was submitted to the Alameda County Department of Environmental Health Environmental Protection Division (ACDEH) for review and comment.

This amended work plan is prepared in accordance with the Tri-Regional Board Staff Recommendation For Preliminary Evaluation and Investigation of Underground Tank Sites, dated August 10, 1995, and in response to the ACDEH letter dated March 14, 1995, requesting an expansion of the proposed Work Plan for Soil and Groundwater Assessment at the subject site (Attachment 2).

As requested by the ACDEH, the modified scope of work for the proposed soil and groundwater assessment has two objectives:

1) To investigate extent of the dissolved and non-dissolved phases of petroleum hydrocarbons impacting the groundwater to the north of the former UST pit at the subject site.

+ NE

0061SGA2.WKP

2). To further define the boundary of the soil type change observed between the Ringsby Terminal lease and the Port of Oakland property to the north (Attachment 1, Figure 2).

All drilling will be completed using hydraulically-driven drilling methods (Geoprobe) to collect soil cores and water samples. Field descriptions and measurements as well as analytical data will be used to determine the soil and groundwater conditions northeast, north, and northwest of the former UST pit/excavation. Specifically, the work scope includes a total of eight Geoprobe points: two to the northwest, three to the north, and three to the northeast of the former UST excavation (Figure 2). An assessment report summarizing the methods and results of the work performed will be completed for submission to the ACDEH.

TASK 1: SITE-SPECIFIC HEALTH AND SAFETY PLAN/UTILITY CHECK/PERMITTING

A site-specific ***Health and Safety Plan*** has been prepared by Groundwater Technology as required by the Occupational Safety and Health Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document will be reviewed and signed by all Groundwater Technology personnel and subcontractors performing work at the site.

Prior to starting drilling at the site, Groundwater Technology will subcontract a utility location service company to mark the location of underground utilities at the site and provide a map showing the location and depth of all utilities located at the site. Underground Service Alert (USA) will also be contacted prior to starting any drilling at the site. Soil boring permits for the proposed Geoprobe points will be obtained from the Alameda County Zone 7 Flood Control and Water Conservation District.

TASK 2: GEOPROBE DRILLING AND SAMPLE COLLECTION PROCEDURES

14' should be deep enough.

Using Geoprobe drilling equipment, Groundwater Technology will collect continuous soil cores from *eight soil borings to a depth of 14 feet below ground surface (BGS) (Figure 2). The borings will be* advanced using a truck-mounted rig that uses a hydraulically-driven soil coring system to obtain soil and groundwater samples. Two nested sampling rods are driven simultaneously: small-diameter inner sampling rods are used to obtain and retrieve the soil cores; the larger diameter (2.38-inch OD) outer rods serve as temporary drive casing. Each soil core is collected in a 3-foot-long by 1.63-inch diameter inner sampling barrel that is attached to the end of the inner rods.

Continuous cores are collected in 1.5-inch-diameter by 6-inch-long stainless steel sleeves inside the sample barrel as both rods are advanced. After being driven 3 feet, the inner rods are removed from the borehole with a hydraulic winch. The stainless steel sleeves containing the soil samples are removed from the drive sampler and are used for soil descriptions or preserved for analyses. The drive rods and tools will be steam cleaned between bore holes and all sampling equipment will be cleaned between each sampling interval.

The upper 2 feet of each boring location will be hand augured from the surface to a depth of 2 feet BGS and checked for the presence of utilities. Each boring will be 14 feet deep and starting at 2 feet BGS, a total of four 3-foot-long soil cores will be collected from each boring: 2 to 5 feet, 5 to 8 feet, 8.to 11 feet, and 11 to 14 feet BGS. The soil samples will be screened for hydrocarbon vapors using a photoionization detector (PID). Soils encountered during drilling will be logged using the Unified Soil Classification System by a Groundwater Technology field geologist, working under the supervision of a California registered geologist. One sample tube from each core interval will be sealed with aluminum foil, capped, taped, labeled, and placed on ice in an insulated container. Based on field observations, selected soil samples from each borehole will be analyzed by a State-certified analytical laboratory for benzene, toluene, ethylbenzene and xylenes (BTEX), total petroleum hydrocarbons-as-gasoline (TPH-G), and total petroleum hydrocarbons-as-diesel (TPH-D). at least 1 per borehole

All soil samples that are not retained for laboratory analyses will be retained for later review and study. Since the Geoprobe system will be used, no drill cuttings will be generated during the drilling process.

Water generated by steam cleaning will be initially contained in a steam-cleaning trailer and then transferred to DOT approved 55-gallon drums for temporary storage on site. One water sample will be collected from the 55-gallon drum and analyzed by a State-certified analytical laboratory for BTEX, TPH-G, and TPH-D. The analytical results will be used for profiling the water for off-site disposal. follow up

TASK 3: INSTALLATION OF TEMPORARY WELL POINTS

Following the collection of the soil samples and prior to removal of the outer drive rods, a temporary well point will be inserted into each Geoprobe point. The well points will be constructed using 1.25-inch diameter schedule 40 PVC pipe with 10 feet of 0.010-inch-slot well screen set from 14 to 4 feet BGS and 4 feet of blank pipe set from 4 feet BGS to surface grade. Each well point will be sealed at the surface with 6-inches of bentonite pellets placed at 1 foot BGS around the annular space, a PVC slip cap will be placed over the top of the pipe, and a traffic rated steel cover will cover the well. Care will taken to insure the bentonite pellets do not fall into the annular space below 2 feet BGS.

After the temporary wells have been installed, an Interface Probe (IP) will be used to measure depth to water and, if present, the thickness and elevation of separate phase hydrocarbons (SP). The IP utilizes a dual optical sensor and electrical conductivity probe to distinguish between water and SP liquid hydrocarbons. The groundwater entering the temporary wells will be allowed to stabilize over a 24 hour time period prior to collection of groundwater samples.

TASK 4: GROUNDWATER SAMPLING AND ANALYSES

After allowing the groundwater to enter the well casing for 24 hours, the temporary well points will be monitored for the depth to groundwater and SP thickness using an interface probe and water samples will be collected. Groundwater samples will be collected using a 1-inch OD/0.8-inch ID bailer. The wells that do not have measurable product thickness will be sampled first. Prior to sampling each well, the bailer will be cleaned using alconox detergent solution.

Since the temporary wells are not completed with a sand pack, development and or purging groundwater from the well prior to collecting a water sample, could result in the well filling with sediments. Starting with the first bailer, bailed water will be decanted into three 40-ml VOA bottles and then into two 1-liter amber bottles. Each 40-ml VOA bottle will be filled and checked to insure that no air bubbles are present. The water samples will be labeled with the temporary well number, placed in a cooler on ice, and transported to a California Certified Laboratory, and analyzed for BTEX, TPH-G, and TPH-D using EPA methods 8020 (602) and 8015 modified. If the well contains SP, two 40-ml VOA bottles of the product will be collected, and the sample analyzed using a full hydrocarbon scan.

If no problems are encountered while bailing water to collect the initial sample, the well will be purged of four well volumes, 2.25 gallons, and a second set of water samples collected. The second set of water samples will be retained for analyses and the first set discarded. While collecting the water samples, the color, odor, and any sediments in the water samples will be noted in the field notes.

TASK 4: REPORT PREPARATION

Groundwater Technology will prepare a report summarizing the data collected under the scope of work detailed above. The report will document the methods and results of the work, summarize laboratory analytical results, and include appropriate maps. Cross sections will also be made, depicting vertical and lateral changes in the soil encountered in the Geoprobe points. After client review, a copy of the report will be submitted to the ACEHD for review and comment.

Please contact our West Sacramento office at 916-372-4700 if you have questions or comments about this work plan.

Sincerely,

Groundwater Technology, Inc.
Submitted by:

Jaffrey S. Auchterlonie
Lead Geologist
Project Manager

Groundwater Technology, Inc.
Approved by:

E. K. SIMONIS, R.G.
Senior Geologist

REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

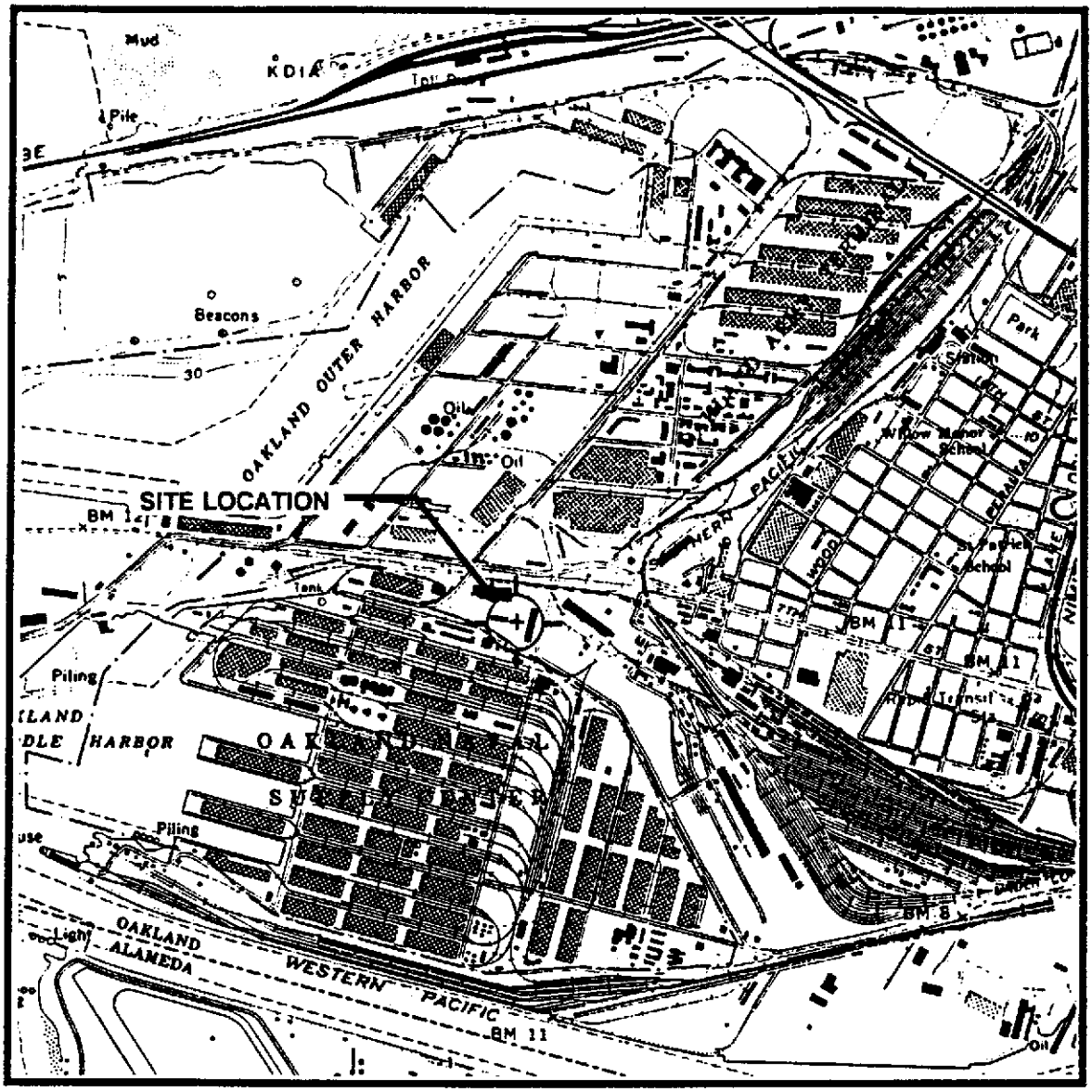
JSA\EKS:dh

Attachments

1. Figures
2. Alameda County Department of Environmental Health letter, January 17, 1995
   Alameda County Department of Environmental Health letter, March 14, 1995

Attachment 1

Figure 1	Site Location Map
Figure 2	Site Plan with Geoprobe Locations
Figure 3	Potentiometric Surface Map, 12/94.



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
OAKLAND WEST
7.5 MINUTE SERIES
1959/PHOTOREVISED 1980

SCALE 1:24,000

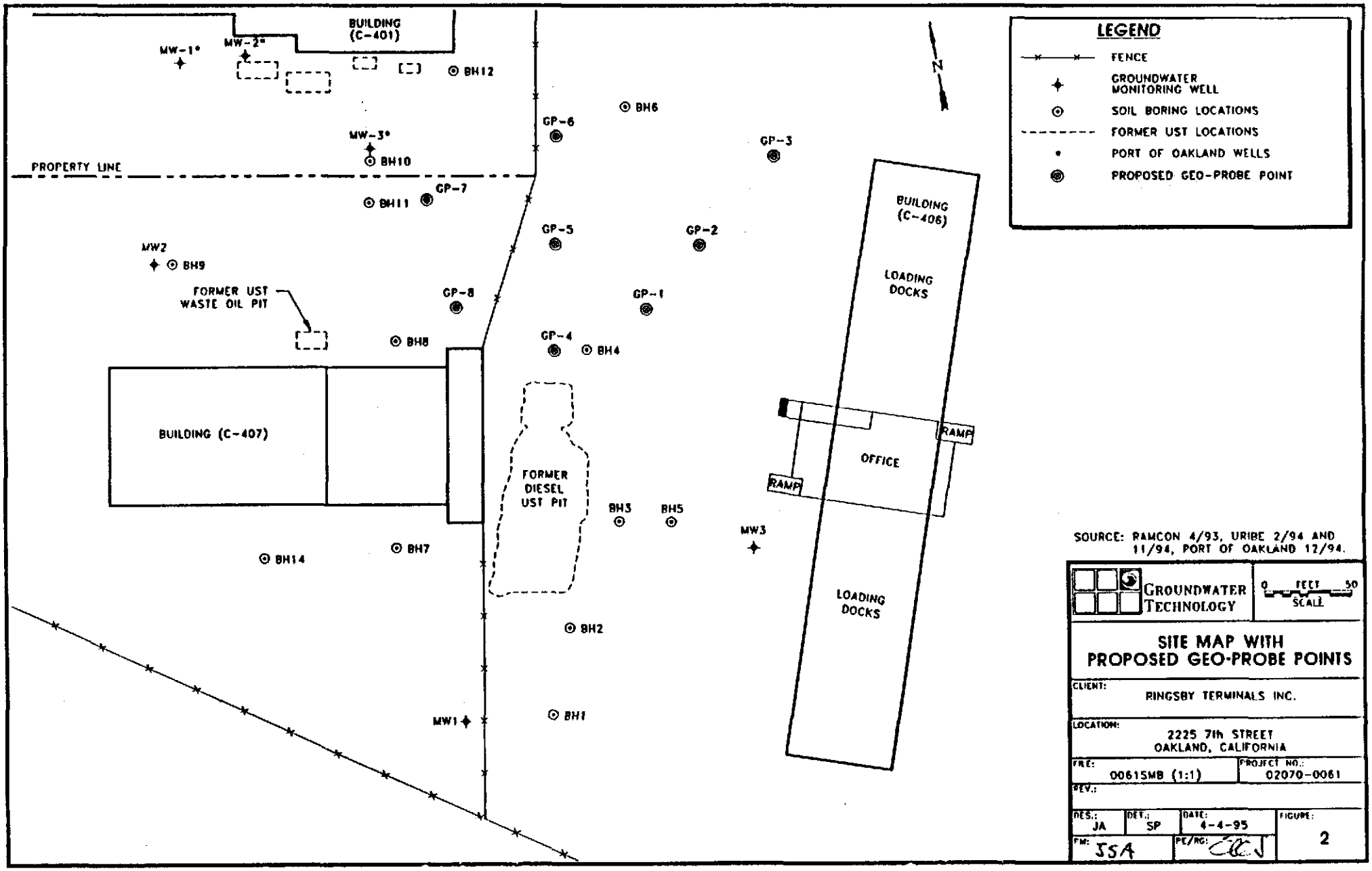
0 2,000 4,000

SCALE FEET

GROUNDWATER TECHNOLOGY

SITE LOCATION MAP

CLIENT:	FILE:	PROJECT NO.:	PM	PE/RG.
RINGSBY TERMINALS INC.	0061-SL (1:1)	02070-0061	JSA	SM
	REV.			
LOCATION: 2225 7th STREET OAKLAND, CA.	DES. JA / DET. SP / DATE: 4-4-95		FIGURE:	1



SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 50
SCALE

SITE MAP WITH PROPOSED GEO-PROBE POINTS

CLIENT: RINGSBY TERMINALS INC.

LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA

FILE: 0061SMB (1:1)

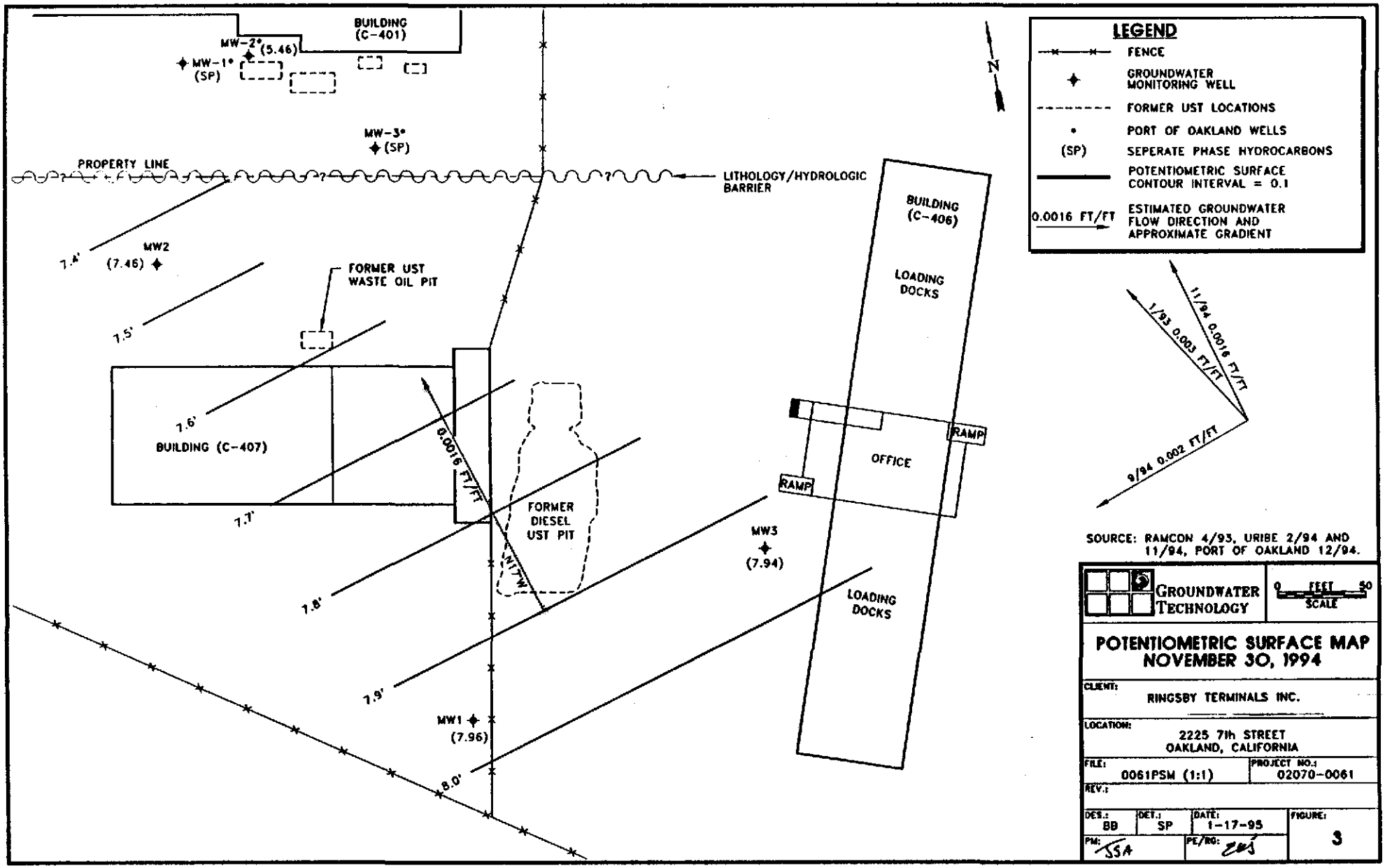
PROJECT NO.: 02070-0061

REV.:

DES.:	DFT.:	DATE:	FIGURE:
JA	SP	4-4-95	2

FM: JSA

PE/REG:


BUILDING (C-401)
MW-2* (5.46)
MW-1* (SP)
MW-3* (SP)
PROPERTY LINE
LITHOLOGY/HYDROLOGIC BARRIER
MW2 (7.46)
FORMER UST WASTE OIL PIT
BUILDING (C-407)
FORMER DIESEL UST PIT
MW3 (7.94)
MW1 (7.96)
BUILDING (C-406)
LOADING DOCKS
OFFICE
RAMP
RAMP
LOADING DOCKS
7.4'
7.5'
7.6'
7.7'
7.8'
7.9'
8.0'
0.0016 FT/FT
N
LEGEND
FENCE
GROUNDWATER MONITORING WELL
FORMER UST LOCATIONS
PORT OF OAKLAND WELLS
(SP) SEPERATE PHASE HYDROCARBONS
POTENTIOMETRIC SURFACE CONTOUR INTERVAL = 0.1
0.0016 FT/FT ESTIMATED GROUNDWATER FLOW DIRECTION AND APPROXIMATE GRADIENT
11/94 0.0016 FT/FT
1/93 0.003 FT/FT
9/94 0.002 FT/FT
SOURCE: RAMCON 4/95, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.
GROUNDWATER TECHNOLOGY
0 FEET 50
SCALE
POTENTIOMETRIC SURFACE MAP
NOVEMBER 30, 1994
CLIENT: RINGSBY TERMINALS INC.
LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA
FILE: 0061PSM (1:1)
PROJECT NO.: 02070-0061
REV.:
DES.: BB
DET.: SP
DATE: 1-17-95
FIGURE: 3
PM: SSA
PE/RG:

Attachment 2

Alameda County Department of Environmental Health letter, January 17, 1995

Alameda County Department of Environmental Health letter, March 14, 1995

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
ALAMEDA COUNTY CC4580
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577

January 17, 1995
STID 940

Dongary Investments
PO Box 7240
Denver CO 80207
Attn: Don Ringsby

RE: Nations Way Transport, 2225-7th St., Oakland CA 94607

Dear Mr. Ringsby,

I am in receipt of the non-hazardous waste manifests for the disposal of approximately 870 cubic yards of contaminated, stockpiled soil, under cover letter from ERM, dated 9/12/94.

I am also in receipt of the "Groundwater Monitoring and Sampling Report," prepared by Groundwater Technology Inc. (GTI), dated 9/20/94. This report documents groundwater monitoring and sampling activities conducted on 9/12/94. It appears that you have established a quarterly groundwater monitoring/sampling program, as requested in my last letter, dated 7/26/94.

Upon review of the data, it is likely that floating product lies on the groundwater table beneath the Dongary sublease. This is indicated by the discussion and the boring logs in the "Soil and Groundwater Site Assessment," prepared by Ramcon, dated 3/18/93. The three wells existing on the Dongary sublease do not adequately delineate both the dissolved and non-dissolved phases of the groundwater plume. Groundwater conditions closer to the potential source of contamination (UST excavation), as well as to the north and northeast of the UST excavation, need to be assessed. **Therefore, you are requested to submit a workplan for groundwater investigation in this area within 45 days, or by March 6, 1995.**

All work should adhere to a) the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated 8/10/90; and b) Article 11 of Title 23, California Code of Regulations. Reports and proposals must be submitted **under seal** of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer.

Please note that with the exception of closure reports, routine reports and documents no longer need to be copied to the Regional Water Quality Control Board. Kindly submit a cover letter with your consultant's reports.

If you have any questions, please contact me at 510-567-6761; our fax is 510-337-9335. **PLEASE NOTE THAT OUR NEW ADDRESS IS 1131 HARBOR BAY PARKWAY, 2nd FLOOR, ALAMEDA CA 94502.**

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Port of Oakland, 530 Water St., Oakland CA 94607, Attn: Dan Schoenholz
Jaff Auchterlonie, Groundwater Technology Inc., 1401 Halyard Dr., Suite 140, W. Sacramento CA 95691
Bob Katin, Groundwater Technology Inc., 4057 Port Chicago Hwy, Concord CA 94520
Kevin Graves, RWQCB
Gil Jensen, Alameda County District Attorney's Office
Ed Howell/file

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